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DICKSTEIN SHAPIRO LLP
1825 EYE STREET NW
Washington, DC 20006-5403

EXAMINER	
BAKER, CHARLOTTE M	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/803,912	ARAKI, TADASHI	
	Examiner	Art Unit	
	Charlotte M. Baker	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *03/19/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. Claim 49 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The image correction program claimed is merely a set of instructions per se. Since the image correction program is merely a set of instructions not embodied on a computer readable medium to realize the computer program functionality, the claimed subject matter is non-statutory. See MPEP § 2106 IV.B.1.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 7-16, 23-32, 39-48, 50 are rejected under 35 U.S.C. 102(e) as being anticipated by Cariffe (US 2003/0142884 A1).

Regarding claim 7: Cariffe discloses an image designating mechanism configured to designate a type of image of book document (Fig. 1, bound medium 143) from the image reading apparatus (Fig. 1, imaging device 123) (Fig. 3); a reference data extractor (pars. 27-30) configured to extract reference data obtained by the image of the book document (Fig. 1, bound medium 143); a book image corrector (Fig. 1, binding curvature distortion corrector 136) configured to extract reference data from an image read by the image reading apparatus (Fig. 1, imaging device 123), to analyze the image (par. 32), and to perform an image correction when the image is determined

as an image of a book document according to an analysis result (pars. 27-32), the book image corrector comprising: a first corrector (Fig. 1, binding curvature distortion corrector 136) configured to correct in a main scanning direction a distortion of the image of the book document (Fig. 1, bound medium 143) based on the reference data extracted from the image of the book document (Fig. 1, bound medium 143); and a second corrector (Fig. 1, binding curvature distortion corrector 136) having a plurality of different correction modes configured to correct a distortion of the image of the book document (Fig. 1, bound medium 143) in a sub-scanning direction, and wherein the reference data extractor extracts the reference data based on the type of image designated by the image designating mechanism (Fig. 3 and pars. 26-32).

Regarding claim 8: Cariffe satisfies all the elements of claim 7. Cariffe further discloses wherein the reference data includes a page outline (bound medium), a ruled line (axis), and a character line (text) (pars. 27-30).

Regarding claim 9: Cariffe satisfies all the elements of claim 7. Cariffe further discloses wherein the book document (Fig. 1, bound medium 143) is laid on the image reading apparatus (Fig. 1, imaging device 123) such that a binding portion of the book document (Fig. 1, bound medium 143) is parallel to the main scanning direction (pars. 27, 31 and 35).

Regarding claim 10: Cariffe satisfies all the elements of claim 7. Cariffe further discloses wherein the reference data extractor extracts the ruled line and the character line other than the page outline as the reference data when the image designating mechanism designates a binary image (pars. 27-30).

Regarding claim 11: Cariffe discloses an image distortion corrector (Fig. 1, binding curvature distortion corrector 136) configured to perform a distortion correction of an image of a book document (Fig. 1, bound medium 143) read by the image reading apparatus (Fig. 1, imaging device 123) (pars. 27-30); and an image adjustor configured to adjust an image of the book document (Fig. 1, bound medium 143) after the process of the distortion correction is completed (par. 31).

Regarding claim 12: Cariffe satisfies all the elements of claim 11. Arguments analogous to those stated in the rejection of claim 9 are applicable.

Regarding claim 13: Cariffe satisfies all the elements of claim 12. Cariffe further discloses wherein the image adjustor centrally aligns the binding portion of the book document (Fig. 1, bound medium 143) to the image after the process of the distortion correction is completed (pars. 27-31).

Regarding claim 14: Cariffe satisfies all the elements of claim 12. Cariffe further discloses wherein the image adjustor equally adjusts a size of the corrected image to a size of the book document (Fig. 1, bound medium 143) (pars. 31-32).

Regarding claim 15: Cariffe satisfies all the elements of claim 12. Cariffe further discloses wherein the image adjustor (par. 31) centrally aligns the binding portion of the corrected image and equally adjusts a size of an output image to the book document (Fig. 1, bound medium 143) (pars. 31-32).

Regarding claim 16: Cariffe satisfies all the elements of claim 11. Cariffe further discloses an instructing mechanism (Fig 3) which instructs an adjustment of a corrected image (enable

corrector), wherein the image adjustor (Fig. 1, binding curvature distortion corrector 136) adjusts the image based on an instruction of the instructing mechanism (pars. 26-30).

Regarding claim 23: Arguments analogous to those stated in the rejection of claim 7 are applicable.

Regarding claim 24: Cariffe satisfies all the elements of claim 23. Arguments analogous to those stated in the rejection of claim 8 are applicable.

Regarding claim 25: Cariffe satisfies all the elements of claim 23. Arguments analogous to those stated in the rejection of claim 9 are applicable.

Regarding claim 26: Cariffe satisfies all the elements of claim 23. Arguments analogous to those stated in the rejection of claim 10 are applicable.

Regarding claim 27: Arguments analogous to those stated in the rejection of claim 11 are applicable.

Regarding claim 28: Cariffe satisfies all the elements of claim 27. Arguments analogous to those stated in the rejection of claim 12 are applicable.

Regarding claim 29: Cariffe satisfies all the elements of claim 27. Arguments analogous to those stated in the rejection of claim 13 are applicable.

Regarding claim 30: Cariffe satisfies all the elements of claim 28. Arguments analogous to those stated in the rejection of claim 14 are applicable.

Regarding claim 31: Cariffe satisfies all the elements of claim 28. Arguments analogous to those stated in the rejection of claim 15 are applicable.

Regarding claim 32: Cariffe satisfies all the elements of claim 27. Arguments analogous to those stated in the rejection of claim 16 are applicable.

Regarding claim 39: The structural elements of apparatus claim 7 perform all of the steps of method claim 39. Thus, claim 39 is rejected for the same reasons discussed in the rejection of claim 7.

Regarding claim 40: Cariffe satisfies all the elements of claim 39. The structural elements of apparatus claim 8 perform all of the steps of method claim 40. Thus, claim 40 is rejected for the same reasons discussed in the rejection of claim 8.

Regarding claim 41: Cariffe satisfies all the elements of claim 39. The structural elements of apparatus claim 9 perform all of the steps of method claim 41. Thus, claim 41 is rejected for the same reasons discussed in the rejection of claim 9.

Regarding claim 42: Cariffe satisfies all the elements of claim 39. The structural elements of apparatus claim 10 perform all of the steps of method claim 42. Thus, claim 42 is rejected for the same reasons discussed in the rejection of claim 10.

Regarding claim 43: The structural elements of apparatus claim 11 perform all of the steps of method claim 43. Thus, claim 43 is rejected for the same reasons discussed in the rejection of claim 11.

Regarding claim 44: Cariffe satisfies all the elements of claim 43. The structural elements of apparatus claim 12 perform all of the steps of method claim 44. Thus, claim 44 is rejected for the same reasons discussed in the rejection of claim 12.

Regarding claim 45: Cariffe satisfies all the elements of claim 44. The structural elements of apparatus claim 13 perform all of the steps of method claim 45. Thus, claim 45 is rejected for the same reasons discussed in the rejection of claim 13.

Regarding claim 46: Cariffe satisfies all the elements of claim 44. The structural elements of apparatus claim 14 perform all of the steps of method claim 46. Thus, claim 46 is rejected for the same reasons discussed in the rejection of claim 14.

Regarding claim 47: Cariffe satisfies all the elements of claim 44. The structural elements of apparatus claim 15 perform all of the steps of method claim 47. Thus, claim 47 is rejected for the same reasons discussed in the rejection of claim 15.

Regarding claim 48: Cariffe satisfies all the elements of claim 43. The structural elements of apparatus claim 16 perform all of the steps of method claim 48. Thus, claim 48 is rejected for the same reasons discussed in the rejection of claim 16.

Regarding claim 50: Cariffe satisfies any one of claims 39-48. A computer readable medium storing an image correction program is inherently taught as evidenced by computer system 100 and various memories stored therein. Arguments analogous to those stated in the rejection of claims 7-16 are applicable.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-6 , 17-22, 33-38, 49-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cariffe in view of Nako (7,072,527).

Regarding claim 1: Cariffe discloses of the image reading apparatus (Fig. 1, imaging device 123); a book image corrector (Fig. 1, binding curvature distortion corrector 136) configured to perform an image correction based on reference data from an image read by the image reading apparatus (Fig. 1, imaging device 123) when the image is of a book document (pars. 14-15), the book image corrector comprising: a first corrector (Fig. 1, binding curvature distortion corrector 136) configured to correct in a main scanning direction a distortion of the image of the book document based on the reference data (pars. 14-15 and 32); a second corrector (Fig. 1, binding curvature distortion corrector 136) having a plurality of different correction modes configured to correct a distortion of the image of the book document in a sub-scanning direction (pars. 22, 26-32); and a selector configured (pars. 22 and 26) to select one of the plurality of different correction modes (pars. 22 and 26) of the second corrector (Fig. 1, binding curvature distortion corrector 136).

Cariffe fails to specifically address a first memory storing optical positioning information; based on the optical positioning information stored in the first memory.

Nako discloses a first memory (Fig. 1, storage device 4) storing optical positioning information (col. 8, ln. 35-55); based on the optical positioning information (col. 8, ln. 35-55) stored in the first memory (Fig. 1, storage device 4).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to include a first memory storing optical positioning information in order to determine

the book binding position and correct the image as if the original document were flat as taught by Nako (col. 1, ln. 5-10 and col. 8, ln. 42-45).

Regarding claim 2: Cariffe in view of Nako satisy all the elements of claim 1. Cariffe further discloses wherein the reference data includes a page outline (bound medium), a ruled line (axis), and a character line (text) (pars. 27-30).

Regarding claim 3: Cariffe in view of Nako satisy all the elements of claim 1. Cariffe further discloses wherein the book document (Fig. 1, bound medium 143) is laid on the image reading apparatus (Fig. 1, imaging device 123) such that a binding portion of the book document (Fig. 1, bound medium 143) is parallel to the main scanning direction (pars. 27, 31 and 35).

Regarding claim 4: Cariffe in view of Nako satisy all the elements of claim 1. Cariffe further discloses wherein the plurality of different correction modes (pars. 22, 26-32) include a first mode which corrects a rising amount of an image portion of the image of the book document in a vicinity of the binding portion (par. 28) and a second mode (par. 29); from the image of the book document (Fig. 1, bound medium 143) and corrects the distortion (pars. 26-31); and wherein the selector selects the first mode (pars. 22 and 26); and the second mode (pars. 22 and 26).

Cariffe fails to specifically address which extracts a character circumscribing rectangle; based on a rectangle aspect ratio of the character circumscribing rectangle; when the optical positioning information is stored in the first memory; when the optical positioning information is not stored in the first memory.

Nako discloses which extracts a character circumscribing rectangle (col. 11, ln. 53 through col. 12, ln. 9); based on a rectangle aspect ratio of the character circumscribing rectangle

(col. 11, ln. 53 through col. 12, ln. 9); when the optical positioning information is stored in the first memory (col. 8, ln. 35-55); when the optical positioning information is not stored in the first memory (col. 8, ln. 35-55).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to include extracting a character circumscribing rectangle in order to determine the book binding position and correct the image as if the original document were flat as taught by Nako (col. 1, ln. 5-10 and col. 8, ln. 42-45).

Regarding claim 5: Cariffe in view of Nako satisy all the elements of claim 1. Cariffe further discloses a second memory (memory in user interface 149) storing a user selection mode (correct or not correct), wherein the selector selects another one of the plurality of different correction modes which does not perform a distortion correction (no correction selected).

Cariffe fails to specifically address when the optical positioning information is not stored in the first memory.

Nako discloses when the optical positioning information is not stored in the first memory (col. 8, ln. 35-55).

Regarding claim 6: Cariffe in view of Nako satisy all the elements of claim 1. Cariffe further discloses a second memory storing a user selection mode (memory in user interface 149), wherein the selector selects a different one of the plurality of different correction modes (correct or not correct) which does not perform a correction of the distortion in the sub-scanning direction (no correction selected).

Cariffe fails to specifically address regardless of whether the optical positioning information is stored in the first memory.

Nako discloses regardless of whether the optical positioning information is stored in the first memory (col. 8, ln. 35-55).

Regarding claim 17: Arguments analogous to those stated in the rejection of claim 1 are applicable.

Regarding claim 18: Cariffe in view of Nako satisfy all the elements of claim 17. Arguments analogous to those stated in the rejection of claim 2 are applicable.

Regarding claim 19: Cariffe in view of Nako satisfy all the elements of claim 17. Arguments analogous to those stated in the rejection of claim 3 are applicable.

Regarding claim 20: Cariffe in view of Nako satisfy all the elements of claim 17. Arguments analogous to those stated in the rejection of claim 4 are applicable.

Regarding claim 21: Cariffe in view of Nako satisfy all the elements of claim 17. Arguments analogous to those stated in the rejection of claim 5 are applicable.

Regarding claim 22: Cariffe in view of Nako satisfy all the elements of claim 17. Arguments analogous to those stated in the rejection of claim 6 are applicable.

Regarding claim 33: The structural elements of apparatus claim 1 perform all of the steps of method claim 33. Thus, claim 33 is rejected for the same reasons discussed in the rejection of claim 1.

Regarding claim 34: Cariffe in view of Nako satisfy all the elements of claim 33. The structural elements of apparatus claim 2 perform all of the steps of method claim 34. Thus, claim 34 is rejected for the same reasons discussed in the rejection of claim 2.

Regarding claim 35: Cariffe in view of Nako satisfy all the elements of claim 33. The structural elements of apparatus claim 3 perform all of the steps of method claim 35. Thus, claim 35 is rejected for the same reasons discussed in the rejection of claim 3.

Regarding claim 36: Cariffe in view of Nako satisfy all the elements of claim 33. The structural elements of apparatus claim 4 perform all of the steps of method claim 36. Thus, claim 36 is rejected for the same reasons discussed in the rejection of claim 4.

Regarding claim 37: Cariffe in view of Nako satisfy all the elements of claim 33. The structural elements of apparatus claim 5 perform all of the steps of method claim 37. Thus, claim 37 is rejected for the same reasons discussed in the rejection of claim 5.

Regarding claim 38: Cariffe in view of Nako satisfy all the elements of claim 33. The structural elements of apparatus claim 6 perform all of the steps of method claim 38. Thus, claim 38 is rejected for the same reasons discussed in the rejection of claim 6.

Regarding claim 49: A computer readable medium storing an image correction program is inherently taught as evidenced by computer system 100 and various memories stored therein. Arguments analogous to those stated in the rejection of claim 1 are applicable.

Regarding claim 50: Cariffe in view of Nako satisfy any one of claims 33-38. A computer readable medium storing an image correction program is inherently taught as evidenced by computer system 100 and various memories stored therein. Arguments analogous to those stated in the rejection of claims 1-6 are applicable.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Takahashi et al. (5,583,662); Matsuda et al. (5,969,829); Katsuyama et al. (6,035,061); Iida (6,256,411); Takahashi et al. (6,330,050).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlotte M. Baker whose telephone number is 571-272-7459. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMB

TWYLER LAMB
SUPERVISORY PATENT EXAMINER